The International Journal of Biochemistry

EDITOR G. A. KERKUT ASSISTANT EDITOR IAN GILES

List of Contents and Author Index
Volume 23, 1991

PERGAMON PRESS
OXFORD NEW YORK SEOUL TOKYO

The International Journal of Biochemistry

EDITOR

Professor G. A. KERKUT, Department of Physiology and Biochemistry, University of Southampton, Southampton SO9 3TU, England [*Tel.* (0703) 594341; *Fax* (0703) 594319]

ASSISTANT EDITOR

Dr IAN GILES, Department of Physiology and Biochemistry, University of Southampton, Southampton SO9 3TU, England

HONORARY EDITORIAL ADVISORY BOARD

D. BALINSKY (Bethesda, Md)
A. M. DEL C. BATLLE (Buenos Aires)
J. W. CAMPBELL (Houston, Tex.)
R. A. CAPALDI (Eugene, Ore.)
P. COHEN (Madison, Wis.)
P. CUATRECASAS (Ann Arbor, Mich.)
P. FRIEDRICH (Budapest)
I. C. GUNSALUS (Urbana, Ill.)
R. H. HASCHEMEYER (New York, N.Y.)
S. MINAKAMI (Fukuoka)
T. OZAWA (Nagoya)
M. ROTHSTEIN (Buffalo, N.Y.)
M. SCHLESINGER (St Louis, Mo.)
K. J. SCHRAY (Bethlehem, Pa.)
G. TUNNICLIFF (Evansville, Ind.)
V. ZHIVKOV (Sofia)

Publishing Office: Pergamon Press plc, Pergamon House, Bampfylde Street, Exeter EX1 2AH, England [*Tel.* Exeter (0392) 51558; *Fax* (0392) 425370]

Subscription and Advertising Offices—North America: Pergamon Press Inc., 395 Saw Mill River Road, Elmsford, NY 10523, U.S.A. *Rest of the World:* Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, England [*Tel.* Oxford (0865) 794141]

Annual Subscription Rates 1991

Annual institutional subscription rate (1991) DM 1280.00; two-year institutional rate (1991/92) DM 2432.00; a personal subscription rate for those whose library subscribes at the regular rate is available on request. Subscription rates for Japan include despatch by air and prices are available on application. Prices are subject to amendment without notice.

Back Issues

Back issues of all previously published volumes, in both hard copy and on microform, are available direct from Pergamon Press offices.

Published monthly.

Copyright © 1991 Pergamon Press plc

It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organizations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holder.

Whilst every effort is made by the publishers and editorial board to see that no inaccurate or misleading data, opinion or statement appears in this journal, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the sole responsibility of the contributor or advertiser concerned. Accordingly, the publishers, the editorial board and editors and their respective employees, officers and agents accept no responsibility or liability whatsoever for the consequences of any such inaccurate or misleading data, opinion or statement.

Photocopying information for users in the U.S.A.

The Item-fee Code for this publication indicates that authorization to photocopy items for internal or personal use is granted by the copyright holder for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service provided the stated fee for copying, beyond that permitted by Section 107 or 108 of the United States Copyright Law, is paid. The appropriate remittance of $3.00 per copy per article is paid directly to the Copyright Clearance Center Inc., 27 Congress Street, Salem, MA 01970, U.S.A.

Permission for other use

The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying.

The Item-fee Code for this publication is: 0020-711X/91 $3.00+0.00

♾™The text paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

CONTENTS OF VOLUME 23

Vol. 23, No. 1

Minireviews

John Kay, Anthony Cryer, Barbara M. Darke, Peter Kille, Wendy E. Lees, Christopher G. Norey and **J. Marshall Stark** — 1 Naturally occurring and recombinant metallothioneins: structure, immunoreactivity and metal-binding functions

Hsien-yu Wang, Miguel Berrios, John R. Hadcock and **Craig C. Malbon** — 7 The biology of β-adrenergic receptors: analysis in human epidermoid carcinoma A431 cells

General Papers

Juraj Gašperík, Ľubomír Kováč and **Olga Mináriková** — 21 Purification and characterization of the amylolytic enzymes of *Saccharomycopsis fibuligera*

Norma A. Vavatsi, Sofia A. Kouidou, Athanasios A. Triantos, Evangelos M. Kavoukopoulos, Georgios E. Papageorgiou and **Antonios C. Trakatellis** — 27 Cellular and tissue distribution of a single-strand-specific nuclease

Harvey N. Rubin, Randy S. Stefanko and **Mostafa N. Halim** — 33 An inhibitor(s) of globin mRNA translation in rabbit serum

K. R. Lynn — 47 The isolation and some properties of dipeptidyl peptidases II and III from porcine spleen

France Bertrand, Brigitte Hermelin, Annick Paul and **Jacques Picard** — 51 Pericellular glycoconjugates of cultured fibroblasts from control and cystic fibrosis patients

M. T. Rinaudo, M. Curto, R. Bruno, M. Piccinini and **C. Marino** — 59 Acid soluble, short chain esterified and free carnitine in the liver, heart, muscle and brain of pre and post hatched chicks

N. K. Karamanos, A. Manouras, T. Tsegenidis and **C. A. Antonopoulos** — 67 Isolation and chemical study of the glycosaminoglycans from squid cornea

Toshiaki Nikai, Yumiko Komori, Kuniko Imai and **Hisayoshi Sugihara** — 73 Isolation and characterization of hemorrhagic toxin from the venom of *Trimeresurus elegans*

Toshifumi Tsukahara, Shoichi Ishiura and **Hideo Sugita** — 79 Identification of an elastase-like activity, that decreased during the differentiation of MEL cells, as a prolyl endopeptidase

Guldborg Serck-Hanssen and **Oddmund Søvik** — 85 Binding of insulin and insulin-like growth factor I in bovine chromaffin cells in primary culture

Alga E. M. Jacobs, Ad A. G. M. Benders, Arie Oosterhof, Jacques H. Veerkamp, Ron A. Wevers and **Ed G. M. Joosten** — 93 Effect of various agents on the cytoplasmic calcium concentration in cultured human muscle cells

Federico Licastro, Luigi Barbieri, Alexander Krajhanzi, Jan Kocourek and **Fiorenzo Stripe** — 101 A cortical lectin from the oocytes of *Rutilus rutilus* stimulates mitogenic activity and release of soluble factors from human lymphocyte cultures and inhibits protein synthesis in a cell-free system

M. S. Gilbert, P. J. Lowry, M. G. Castro, R. J. Woods and **D. Savva** — 107 Expression and partial purification of human prolactin in *Escherichia coli*

Shipra Sengupta, Francis E. Shovlin, Amalia Slomiany and **Bronislaw L. Slomiany**	115	Identification of laminin receptor in gingival tissue and its interaction with tooth cementum laminin
Carlo M. Bergamini and **Marco Signorini**	123	Exploring the catalytic mechanism of skeletal muscle UDP-glucose pyrophosphorylase: identification of a hyperreactive cysteine at the enzyme active site
Book Reviews	129	
New Patents Section	i	

Vol. 23, No. 2

Minireview

T. Cserháti and **M. Szögyi**	131	Interaction of phospholipids with proteins, peptides and amino acids. New advances 1987–1989

General Papers

Suna Türkoğlu and **Inci Özer**	147	Resolution of multiple forms of bovine liver arginase by chromatofocusing
V. D. Antonenkov and **S. V. Pirozhkov**	153	Effect of chronic ethanol treatment on the t-butyl hydroperoxide-dependent lipid peroxidation in rat liver
Jorge Cerbón and **Carlos Hernández Luna**	161	Anionic phospholipids in the control of the membrane surface potential in *Escherichia coli*: their influence on transport mechanisms
Sook Shin, Portia Wu and **Chang-Hwei Chen**	169	Biochemical studies of the actions of ethanol on acetylcholinesterase activity: ethanol–enzyme–solvent interaction
Y. Dupuis, S. Tardivel, Z. Porembska and **P. Fournier**	175	Effect of some alkaline phosphatase inhibitors on intestinal calcium transfer
C. Y. Hu and **H. J. Mersmann**	181	Interaction of lipogenic substrates in porcine adipose tissue *in vitro*
L. Srebreva, A. Kachaunova and **J. Zlatanova**	189	The occurrence and properties of histone H1° in quiescent rabbit tissues
Wanda M. Krajewska, Małgorzata Marszałek, Marek Gaczyński and **Leokadia Kłyszejko-Stefanowicz**	195	Nuclear antigen with a molecular weight of 48,000 associated with malignant transformation
Toshio Matsuda, Hideo Tonomura, Akemichi Baba and **Heitaroh Iwata**	203	Postnatal development of thiamine metabolism in rat skeletal muscle
Rafael Moreno-Sánchez, Concepción Bravo, Josefina Gutiérrez, Amy H. Newman and **Peter K. Chiang**	207	Release of Ca^{2+} from heart and kidney mitochondria by peripheral-type benzodiazepine receptor ligands
Carla Emiliani, Paola Locci, Ennio Becchetti, Lorella Marinucci, Gianluca Bellachioma and **Aldo Orlacchio**	215	Increase of intermediate forms of β-*N*-acetylhexosaminidase during rat liver development and regeneration
R. A. Turcotte and **A. N. Belcastro**	221	Biochemical adaptation of cardiac and skeletal muscle to physical activity
R. Accomando, A. Viarengo, R. Bordone, M. Taningher, L. Canesi and **M. Orunesu**	227	A rapid method for detecting DNA strand breaks in *Mytilus galloprovincialis* Lam. induced by genotoxic xenobiotic chemicals

V. Stergiou-Michailidou and E. Kontoleon-Vakalopoulou — 231 — The combined action of exercise and methylprednisolone sodium succinate on the rat gastrocnemius muscle

Rolf A. Løvstad — 235 — The reaction of ferric- and ferrous salts with bleomycin

Hendrik A. G. Beukes, Mathys M. J. Oosthuizen, Hugo Lambrechts, J. Albertus Myburgh, Derek Litthauer and Ryno J. Naude — 239 — Properties of the isoenzyme forms A-1, A-2 and B of *N*-acetyl-β-D-glucosaminidase purified from baboon kidneys

Book Reviews — 253

Vol. 23, No. 3

Compendium

Ian G. Giles — 255 — A compendium of reviews in biochemistry and molecular biology published in the first half of 1990

Minireviews

Hsuei-Chin Wang, Bernard Beer, Daniela Sassano, Arthur J. Blume and M. Reza Ziai — 271 — Gene expression in *Xenopus* oocytes

Ulrich Pfeffer and Giorgio Vidali — 277 — Histone acetylation: recent approaches to a basic mechanism of genome organization

General Papers

Mats Lindahl, Cynthia de Wit, Björn Weström, Henning von Schenck and Christer Tagesson — 287 — Demonstration of a phospholipase A_2 inhibitor in human plasma and in plasma from the European hedgehog (*Erinaceus europaeus*)

Chang-Hwei Chen, Stuart G. Engel, Carol Samsonoff and Donald S. Berns — 293 — Investigation of phycocyanin–membrane interaction: promotion of membrane interactions

Kazuo Irita, Randy McConnell, Pedro Cuatrecasas and G. Matthew Hebdon — 301 — Difference between the calcium- and the phorbol ester-induced association of protein kinase C with phospholipid membrane

Ole-Bjørn Tysnes, Vidar M. Steen, Grethe M. Aarbakke and Holm Holmsen — 305 — Stimulation of human platelets with low concentrations of thrombin: evidence for equimolar accumulation of inositol trisphosphates and phosphatidic acid

Toshiaki Nikai, Chiharu Kato, Yumiko Komori, Hisayoshi Sugihara and Manabu Homma — 311 — Characterization of Ac_1-Proteinase from the venom of *Agkistrodon acutus* (Hundred-pace snake) from Taiwan

Wojciech A. Turski and Lilla Lachowicz — 317 — The possibility of participation of different protein kinases in the regulation of degradation of $Glp_6[^{125}I]Tyr_8SP_{6-11}$ with different endopeptidases in subcellular fractions of rat brain

Nget-Hong Tan and M. Nomanbhay Saifuddin — 323 — Substrate specificity of king cobra (*Ophiophagus hannah*) venom L-amino acid oxidase

Bertrand Delpech, Catherine Maingonnat, Annie Delpech, Pierrette Maes, Nicole Girard and Philippe Bertrand — 329 — Characterization of a hyaluronic acid-binding protein from sheep brain comparison with human brain hyaluronectin

Mira Grdiša and Ljubinka Vitale — 339 — Types and localization of aminopeptidases in different human blood cells

Math J. H. Geelen, Anton C. Beynen and **Clay H. C. Paays**	347	Lipoproteins do not influence cholesterol synthesis in freshly isolated rat hepatocytes, cautionary note
John J. Freeman, Gary R. Parr, Randy I. Hecht, Judy C. Morris and **John P. McKearn**	353	Secondary structure of human interleuken-3
Shin'ichi Shoji	361	Effects of triamcinolone acetonide on plasma amino acids and urinary urea output in rabbits
Tam D. Nguyen and **David Keast**	365	The effects of diet on the maximal activities of glutaminase, citrate synthase, hexokinase, 6-phosphofructokinase and lactate dehydrogenase in the skin of haired and hairless mice of various ages
Kate Stacey, Barbara Beasley, Peter A. Wilce and **Len Martin**	371	Effects of female sex hormones on lipid metabolism in the uterine epithelium of the mouse
S. Nedjar, G. Humbert, J. Y. le Deaut and **G. Linden**	377	Specificity of chymosin on immobilized bovine B-chain insulin
Book Reviews	383	
New Patents Section	i	

Vol. 23, No. 4

Minireview

Pierre Broquet, Hélene Baubichon-Cortay, Pascal George and **Pierre Louisot**	385	Glycoprotein sialyltransferases in eucaryotic cells

General Papers

Howard H. T. Hsu	391	The partial sequencing of human nonspecific (bone/liver/kidney) alkaline phosphatase gene
Eikichi Hashimoto, Fumito Takeuchi and **Hirohei Yamamura**	395	Studies on protein kinase C tightly-bound to rat liver plasma membrane and its protease-activated form
M. J. LaDu, C. J. Schultz, D. A. Essig and **W. K. Palmer**	405	Characterization of serum-stimulated lipoprotein lipase from bovine heart
Aleksandra Kubicz, Agata Szalewicz and **Andreas Chrambach**	413	Studies on the oligosaccharide heterogeneity of the isoelectric forms of the lower molecular weight acid phosphatase of frog liver
Tsuyoshi Tanimoto, Miyako Ohta, Akira Tanaka, Isao Ikemoto and **Toyohei Machida**	421	Purification and characterization of human testis aldose and aldehyde reductase
Kazuo Asaoka	429	Enzymes that metabolize acyl–coenzyme A in the monkey—their distribution, properties and roles in an alternative pathway for the excretion of nitrogen
C. Rimington, A. Rønnestad, M. Kongshaug, Q. Peng, L. S. Cheng and **J. Moan**	435	Isohematoporphyrin-diesters and diethers
Maureen Joffe, Nerina Savage, Cheryl du Sautoy, Graham Mitchell and **Hyam Isaacs**	443	Kinase activity and protein phosphorylation in control and malignant hyperthermic skeletal muscle

Andres Carmona, Patsy M. Nishina, Ernest H. Avery and **R. A. Freedland**	455	Time course changes in glycogen accretion, 6-phosphogluconate, fructose-2,6-bisphosphate, and lipogenesis upon refeeding a high sucrose diet to starved rats
Roichi Itoh and **Kouichi Yamada**	461	Determination of cytoplasmic 5′-nucleotidase which preferentially hydrolyses 6-hydroxypurine nucleotides in pig, rat and human tissues by immunotitration
Frank J. Kelly, Guy M. Rickett, Alan N. Hunt, G. Ian Town, Stephen T. Holgate and **Tony D. Postle**	467	Biochemical maturation of the guinea pig lung and survival following premature delivery
Magne Kongshaug, Long Sheng Cheng, Johan Moan and **Claude Rimington**	473	Interaction of cremophor EL with human plasma
C. Marinova, S. Persengiev, R. Konakchieva, A. Ilieva and **V. Patchev**	479	Melatonin effects on glucocorticoid receptors in rat brain and pituitary: significance in adrenocortical regulation
Akio Takenaka, Yuichi Ohishi, Tadashi Noguchi and **Hiroshi Naito**	483	A tryptic peptide from β-casein depresses protein synthesis and degradation and enhances ureogenesis in primary cultures of rat hepatocytes
Noriyuki Itoh, Kunizo Mori, Kazuyuki Toga and **Susumu Ikegami**	491	Expression of murine dihydrofolate reductase complementary DNA in oocytes of *Xenopus laevis*
Nore M. M. Benmansour, Yves Demarne, Marie-Jose Lecourtier and **Claude Lhuillery**	499	Effects of dietary fat and adipose tissue location on insulin action in young boar adipocytes

Vol. 23, No. 5/6

Minireviews

Eikichi Hashimoto and **Hirohei Yamamura**	507	Protease-activated protein kinase C in rat liver
Ciaran M. Regan	513	Regulation of neural cell adhesion molecule sialylation state

General Papers

S. V. Primal S. Silva and **John R. Mercer**	525	The effect of lysosomal inhibitors on protein degradation in cat hepatocyte monolayers
Fumio Watanabe, Yoshihisa Nakano, Noriyuki Tachikake, Shozaburo Kitaoka, Yoshiyuki Tamura, Hiroyuki Yamanaka, Satomi Haga, Shunsuke Imai and **Hisako Saido**	531	Occurrence and subcellular location of NADH- and NADPH-linked aquacobalamin reductases in human liver
Jane Hadjimichael and **Edward F. Rossomando**	535	Isolation and characterization of the protein phosphoamidates formed by a membrane bound adenylyl transferase reaction in *Dictyostelium discoideum*
M. Hernández, M. Macia, J. L. Conde and **M. De la Fuente**	541	Cadmium and nickel modulation of adherence capacity of murine peritoneal macrophages and lymphocytes. Intersexual comparisons
Gene R. Herzberg, Kim Coady, Barbara Maddigan and **George MacCharles**	545	Uric acid synthesis by avian exocrine pancreas
Joel Abramowitz and **Bhanu P. Jena**	549	Evidence for a rabbit luteal ADP-ribosyltransferase activity which appears to be capable of activating adenylyl cyclase

T. B. Ng, Z. Feng, W. W. Li and **H. W. Yeung**	561	Improved isolation and further characterization of beta-trichosanthin, a ribosome-inactivating and abortifacient protein from tubers of *Trichosanthes cucumeroides* (Cucurbitaceae)
Katsuhiro Otsuka, Tetsuya Kudo, Takashi Nakajima and **Seiichi Ohkuma**	569	Blood group N antigen precursor glycoproteins and N antigen precursor glycoproteins with Thomsen–Friedenreich (T) activity from human liver metastatic carcinomas
Philip C. Calder, Jane A. Bond, Samantha J. Bevan, Simon V. Hunt and **Eric A. Newsholme**	579	Effect of fatty acids on the proliferation of concanavalin A-stimulated rat lymph node lymphocytes
D. T. Nguyen and **D. Keast**	589	Maximal activities of glutaminase, citrate synthase, hexokinase, 6-phosphofructokinase and lactate dehydrogenase in skin of immune-competent Balb/c and immune-deficient Balb/c (nu/nu) mice during wound healing
Seppo Rönkkö, Risto Lahtinen and **Tapani Vanha-Perttula**	595	Phospholipases A_2 in the reproductive system of the bull
Wai Lam Wong, Margaret A. Brostrom and **Charles O. Brostrom**	605	Effects of Ca^{2+} and ionophore A23187 on protein synthesis in intact rabbit reticulocytes
M. Ching-Ming Chung, Siew-Lee Chan and **Sakayu Shimizu**	609	Purification of transferrins and lactoferrin using DEAE Affi-Gel Blue
S. Sarhan, V. Quemener, J.-Ph. Moulinoux, B. Knödgen and **N. Seiler**	617	On the degradation and elimination of spermine by the vertebrate organism
Kenji Nishioka, Kenneth J. Hurr, Steven E. Dessens and **Tom Rodriguez Jr**	627	A comparative study of [Leu^1]tuftsin and tuftsin, a natural phagocytosis-stimulating peptide
New Patents Section	i	

Vol. 23, No. 7/8

Minireviews

V. Kéry	631	Lectin–carbohydrate interactions in immunoregulation
Nigel M. Hooper	641	Angiotensin converting enzyme: implications from molecular biology for its physiological functions
E. G. Loten	649	Hormone sensitive phosphodiesterase of liver and adipose tissue
P. Kugler	657	Quantification of enzyme activities in brain sections by microphotometry

General Papers

Ludmiła Węglarz and **Grzegorz Bartosz**	663	Spin label detection and free radical nature of DNA damage by hydralazine
M. del C. Ríos de Molina, S. Billi de Catabbi and **L. C. San Martín de Viale**	669	Liver ferrochelatase from normal and hexachlorobenzene porphyric rats. Mechanism of drug action
S. Billi de Catabbi, M. del C. Ríos de Molina and **L. C. San Martín de Viale**	675	Studies on the active centre of rat liver porphyrinogen carboxylyase *in vivo* effect of hexachlorobenzene
J. Mertens-Strijthagen and **C. De Schryver**	681	Biochemical characterisation of mitochondrial and lysosomal particles in foetal and neonatal rats

Diana H. Petkova, Mariana N. Nikolova, Svetlana E. Kochlukova and **Kamen S. Koumanov**	689	Effects of age-dependent or liposome-induced alterations in the phospholipid composition on sphingomyelin biosynthesis in rat liver microsomal and plasma membranes
Sunil K. Chatterjee	695	Molecular cloning of human β1,4-galactosyltransferase and expression of catalytic activity of the fusion protein in *Escherichia coli*
Bo Zhang, Shuji Seki and **Shogo Ikeda**	703	DNA damage by peplomycin and its repair in an *in vitro* system
S. C. Sprott, K. D. Hammond and **N. Savage**	713	Protein kinases associated with proliferation and differentiation in murine erythroleukaemic cells
María Alicia Ugarte and **Providencia Rodríguez**	719	Presence of an extracellular glycosyltransferase in human dental plaque
Reiko Shimomura, Takanobu Taniguchi, Keiko Sakai, Momoyo Asahi, Tetsuya Inazu and **Hirohei Yamamura**	727	Possible endogenous substrate proteins for cytosolic protein-tyrosine kinase from porcine spleen
A. K. Bures, H. H. Daron and **J. L. Aull**	733	Inhibition of thymidylate synthase by glyceraldehyde 3-phosphate
D. McEwen Nicholls, G. M. Speares, A. C. M. Miller, J. Math and **G. Del Bianco**	737	Brain protein synthesis in rabbits following low level aluminium exposure
Xingyao Dai and **L. Dale Snow**	743	Differential theophylline inhibition of alkaline phosphatase and 5′-nucleotidase of bovine milk fat globule membranes
Zhecho Kyossev and **Emilian Ossikovski**	749	Biosynthesis of dolichyl diphosphate *N*-acetylglucosamine intermediates in *Ascaridia galli* microsomes
Kazuo Irita, Pedro Cuatrecasas and **G. Matthew Hebdon**	755	Substitution by fatty acids for phosphatidylserine in a reconstitution of phorbol ester binding to protein kinase C
Karamba J. Cessay, Lawrence W. Bergman and **Martin T. Tuck**	761	Further investigations regarding the role of trimethyllysine for cytochrome *c* uptake into mitochondria
Hasan Safayhi, Michael I. Anazodo and **Hermann P. T. Ammon**	769	Calmodulin- and Ca^{2+}-insensitive fatty acid methyltransferase from RINm5F cells. Inhibition by trifluoperazine and W7
Book Reviews	773	

Vol. 23, No. 9

Review

Yagya D. Sharma	775	Knobs, knob proteins and cytoadherence in falciparum malaria

Minireview

Susanne Klaus, Louis Casteilla, Frédéric Bouillaud and **Daniel Ricquier**	791	The uncoupling protein UCP: a membraneous mitochondrial ion carrier exclusively expressed in brown adipose tissue

General Papers

Cindy E. McKinney and **Ibrahim Z. Ades**	803	Production of δ-aminolevulinic acid: characterization of murine liver 4,5-dioxovaleric acid:L-alanine aminotransferase
N. A. Denisova, N. V. Gorbunov and **N. F. Avrova**	811	Fatty acid composition of phospholipids of myelin and synaptosomal proteolipid complexes from vertebrate brain

Paolo Mondola, Mariarosaria Santillo, Lucio Cammarota and **Franco Santangelo**	819	Role of a calf thymus preparation in the degradation of native and reductively methylated low density lipoprotein
David Keast and **Eric A. Newsholme**	823	Effect of B- and T-cell mitogens on the maximum activities of hexokinase, lactate dehydrogenase, citrate synthase and glutaminase in bone marrow cells and thymocytes of the rat during four hours of culture
Katsuhiro Otsuka, Shinji Nishida, Hirotoshi Yuasa, Akihiro Hara, Tatsuo Shirai and **Seiichi Ohkuma**	827	Thomsen–Friedenreich (T)-active glycoproteins, blood group N antigen precursor glycoproteins and N antigen precursor glycoproteins with T activity from ascitic fluids of liver cancer patients
L. H. Van Den Heever	839	Effect of aflatoxin B_1 on human platelet protein kinase C
Jan Pałyga	845	A comparison of the histone H1 complements of avian erythrocytes
Jiann-Wu Wei and **Shih-Rung Yeh**	851	Effects of insulin on glucose uptake in cultured cells from the central nervous system of rodent
Hiroyuki Yokoyama and **Ritsuko Matsukawa**	857	Effect of dietary essential fatty acid deficiency on Ca^{2+}-ATPase activity in microsomal fraction of rat submandibular gland
Mira Grdiša and **Ljubinka Vitale**	863	The fate of human polymorphonuclear leukocyte aminopeptidases upon cell stimulation with phagocytic and chemical stimuli
Richard A. Freedland, Caroline A. Smith, Michael L. Bruss and **Charles E. Cornelius**	867	Kinetic properties of bilirubin UDP–glucuronyltransferase in squirrel monkeys exhibiting fasting hyperbilirubinemia
Alexander Panov, Vladimir Solovyov and **Valentin Vavilin**	875	Interstrain differences in organization of metabolic processes in the rat liver—I. The dynamics of changes in the contents of adenine nucleotides, glycogen and fatty acyl-CoAs in the course of short-term starvation in the livers of rats of Wistar, August and Wag strains
John J. Robinson	881	Ca^{2+}-binding and protein–protein interaction domains of the sea urchin extraembryonic coat protein hyalin
Rafael Moreno-Sánchez and **Richard G. Hansford**	889	Inhibition of the veratridine-induced increase in cytosolic Ca^{2+} and respiration by Ca^{2+} antagonists in isolated cardiac myocytes
Muriel Bortolato, Gerard Azzar, Jean Farjanel and **Rene Got**	897	Solubilization of UDP-glucose collagen glucosyltransferase activities from chick embryo liver: Golgi apparatus, smooth and rough endoplasmic reticulum
Kazuhiko Iwahashi, Motonari Tsubaki, Akira Miyatake and **Yoshiyuki Ichikawa**	901	Purification and comparative characterization of cytochrome P-450scc from porcine adrenocortical mitochondria
Anna Lipińska, Wanda M. Krajewska, Małgorzata Marszałek, Zofia Kiliańska and **Leokadia Kłyszejko-Stefanowicz**	911	Studies on low molecular weight nuclear protein of tumour and normal cells
M. K. Vaughan, G. M. Vaughan, P. C. Chenoweth, A. Menendez-Pelaez, C. Rodriguez, J. P. Chambers, P. A. Hoover and **R. J. Reiter**	919	Harderian gland porphyrin, lysosomal and type II 5′-deiodinase rhythms in Sprague–Dawley and Fischer-344 rats kept under chronic long- or short-photoperiod conditions

Jurgen T. Borlakoglu, John D. Edwards-Webb and **Raymond R. Dils**	925	Evidence for the induction of fatty acid desaturation in proliferating hepatic endoplasmic reticulum in response to treatment with polychlorinated biphenyls. Are fatty acid desaturates cyctochrome P-450-dependent monooxygenases?
Mark Parry-Billings, Brendan Leighton, George D. Dimitriadis, Rui Curi, Jane Bond, Samantha Bevan, Alison Colquhoun and **Eric A. Newsholme**	933	The effect of tumour bearing on skeletal muscle glutamine metabolism
Moon-Kee Paik, Kyung-Hae Lee, Sung-Soo Hson, In-Myung Park, Jung-Hee Hong and **Byung-Doo Hwang**	939	Human placental protein methylase I. Purification and characterization
Dominic W. S. Wong, Carl A. Batt and **John E. Kinsella**	947	Expression of the transglutaminase gene in *Escherichia coli*
Willy J. Malaisse, Joanne Rasschaert, Ignacio Conget and **Abdullah Sener**	955	Hexose metabolism in pancreatic islets. Regulation of aerobic glycolysis and pyruvate decarboxylation
Frans A. G. Reubsaet, Jacques H. Veerkamp, Marloes L. P. Brückwilder, J. M. Frans Trijbels and **Leo A. H. Monnens**	961	Peroxisomal oxidases and catalase in liver and kidney homogenates of normal and di(ethylhexyl)phthalate-fed rats
T. Beccari, M. Bodo, E. Becchetti, F. Pezzetti, G. Bellachioma and **A. Orlacchio**	969	β-Hexosaminidase expression in chick embryo fibroblasts *in vitro*
Book Reviews	973	
Announcement	I	
New Patents Section	i	

Vol. 23, No. 10

Hideki Wakui, Hideaki Itoh, Yohtalou Tashima, Ryoji Kobayashi, Yasushi Nakamoto and **Akira B. Miura**	975	Specific antibodies against the stress-inducible 72-kDa protein, a member of the heat-shock protein hsp70, in healthy human subjects
Uma Sinha, Sarah A. Wolz and **Pushkaraj J. Lad**	979	Two new extracellular serine proteases from *Streptomyces fradiae*
Yoshihide Ikeuchi, Kazunori Iwamura and **Atsushi Suzuki**	985	Estimation of denaturation of actin in the actin–myosin complex treated with various conditions by DNAase I inhibition assay
André van Tonder, Ryno J. Naudé and **Willem Oelofsen**	991	Ostrich fructose-1,6-bisphosphatase: kinetic characterization of the liver isoenzyme
A. Hrabák, F. Antoni and **Ildikó Csuka**	997	Differences in the arginase activity produced by resident and stimulated murine and rat peritoneal macrophages
In Kook Park, Sook Shin and **Ronald R. Marquardt**	1005	Effects of niacin deficiency on the relative turnover rates of proteins in various tissues of Japanese quail
S. P. Watkins, Marjorie K. Jeacock, D. Savva and **D. A. L. Shepherd**	1013	Ovine trophoblast protein-one: evidence for possible glycosylation

Susana Raquel Correa Garcia, Maria Victoria Rossetti and **Alcira Maria del Carmen Batlle**	1019	Different porphobilinogen-deaminase forms in wild and mutant strains of *Saccharomyces cerevisiae*. A possible correlation with its segregants behaviour
Paola Morini, Elisabetta Casalino, Cesare Sblano and **Clemente Landriscina**	1025	The response of rat liver lipid peroxidation, antioxidant enzyme activities and glutathione concentration to the thyroid hormone
Fiona R. M. van der Klis, Alie A. Nijenhuis and **Wilmar M. Wiersinga**	1031	Inhibition of nuclear T3 binding by fatty acids liberated from nuclear membranes via phospholipase C
H. H. Nejad, K. W. Beers and **W. G. Bottje**	1035	Effect of glutathione manipulation on prostaglandin synthesis in renal medullary homogenates
G. Pironcheva and **G. Russev**	1043	3′ Processing of histone H4 precursor mRNA requires the presence of a small nuclear RNP particle
G. Pironcheva and **G. Russev**	1049	U7 snRNP particles bind H4 pre-mRNA *in vitro*
Yasuhiro Kawamoto, Mitsuo Hayakawa and **Yoshimitsu Abiko**	1053	Purification and immunochemical characterization of a recombinant outer membrane protein from *Bacteroides gingivalis*
Takashi Araki, Mitsuo Hayakawa and **Yoshimitsu Abiko**	1063	Purification and characterization of recombinant cell surface protein antigen A of *Streptococcus sobrinus* B13N
Jean P. Raffin and **Marie T. Thebault**	1069	AMP deaminase from equine muscle: purification and determination of regulatory properties
Wiesława Leśniak	1079	Effect of carbodiimides on the activity of Mg^{2+}-ATPase of slow-twitch muscle microsomal membranes
Paulus S. Gravett, Cornelis C. Viljoen and **Mathys M. J. Oosthuizen**	1085	A steady-state kinetic analysis of the reaction between arginine esterase E-I from *Bitis gabonica* venom and synthetic arginine substrates and the influence of pH, temperature and solvent deuterium isotope
Paulus S. Gravett, Cornelis C. Viljoen and **Mathys M. J. Oosthuizen**	1101	Inactivation of arginine esterase E-I of *Bitis gabonica* venom by irreversible inhibitors including a water-soluble carbodiimide, a chloromethyl ketone and isatoic anhydride
Toshio Matsuda, Hideo Tonomura, Akemichi Baba and **Heitaroh Iwata**	1111	Membrane-associated thiamine triphosphatase in rat skeletal muscle
Fausto Panara, Antonella Angiolillo, Teresa Secca, Ines Di Rosa, Annalisa Fagotti and **Rita Pascolini**	1115	Acid phosphatases in the frog *Rana esculenta* skeletal muscle. Purification and some properties of the low molecular weight enzyme
Kam-Ming Lai and **Patrick C. L. Wong**	1123	A comparison of the properties of 5′-nucleotidase purified from the cytosolic and synaptic plasma membrane fractions of rat forebrain
Sook Shin, Laurence G. Roth and **Chang-Hwei Chen**	1131	Ethanol-acetylcholinesterase-inhibitor interactions: inhibitor hydrophobicity and site specificity dependence
M. Sarikaputi, M. Morimatsu, B. Syuto, M. Saito and **M. Naiki**	1137	A new purification procedure for bovine C-reactive protein and serum amyloid P component
Sérgio A. Uyemura and **Carlos Curti**	1143	Respiration and mitochondrial ATPase in energized mitochondria during isoproterenol-induced cell injury of myocardium
Rolf A. Løvstad	1151	Exchange of copper between serum albumin and bleomycin

Jozef Spychala and **Jaroslaw Marszalek** 1155 Regulatory properties of AMP deaminases from rat tissues

Book Reviews 1161

New Patents Section i

Vol. 23, No. 11

Minireviews

Rafael Moreno-Sánchez and **M. Eugenia Torres-Márquez** 1163 Control of oxidative phosphorylation in mitochondria, cells and tissues

D. T. Nguyen and **D. Keast** 1175 Energy metabolism and the skin

Hideaki Itoh and **Yohtalou Tashima** 1185 The stress (heat shock) proteins

General Papers

Eiko Bando, Toshiaki Nikai and **Hisayoshi Sugihara** 1193 Hemorrhagic protease from the venom of *Calloselasma rhodostoma*

Frederic Chirat, Malika Balduyck, Charlotte Mizon, Salah Laroui, Pierre Sautiere and **Jacques Mizon** 1201 A chondroitin-sulfate chain is located on serine-10 of the urinary trypsin inhibitor

Noré Benmansour, Yves Demarne, Marie-José Lecourtier and **Claude Lhuillery** 1205 Effects of castration, dietary fat and adipose tissue sites on adipocyte plasma-membranes cyclic AMP phosphodiesterase activity in the pig

Rafael Balaña-Fouce, María I. Escribano and **José M. Alunda** 1213 *Leishmania infantum*: polyamine biosynthesis and levels during the growth of promastigotes

U. Karnahl and **C. Wasternack** 1219 Studies on compartmentation of uridine 5′-triphosphate during synthesis of cytoplasmic and plastid ribosomal RNA's in *Euglena gracilis*

Michael J. Keenan and **Ross P. Holmes** 1225 The uptake and metabolism of 25-hydroxyvitamin D_3 and vitamin D binding protein by cultured porcine kidney cells (LLC-PK_1)

N. M. DiMarco, D. C. Rule, G. B. Whitehurst and **D. C. Beitz** 1231 Effect of indomethacin, epinephrine, prostaglandin E_2 and insulin on lipolysis in bovine adipose tissue *in vitro*

K.-H. William Lau, Jan J. Stepan, Aera Yoo, Subburaman Mohan and **David J. Baylink** 1237 Evidence that tartrate-resistant acid phosphatases from osteoclastomas and hairy cell leukemia spleen are members of a multigene family

Dan Suciu 1245 Reproductive death of Chinese hamster V79 cells after exposure to chemical inhibitors of DNA synthesis

G. Stephanou, N. A. Demopoulos and **P. Catsoulacos** 1251 Altered protein synthesis rate in ovaries of *D. melanogaster* caused by new antitumour alkylating agents

Patrick Brachet, Suzanne Carreira and **Antoine Puigserver** 1255 Differential effect of sunflower seed oil on hepatic and renal D-amino acid oxidase in the rat

Miguel Lucas and **Francisca Solano** 1261 Effect of tumour-promoting phorbol ester on calcium homeostasis in human platelets

M. Cavaletto, C. Giunta, E. Pessione and **L. Pergola** 1267 Modulatory effect of two cardioglycosides on reconstituted Na^+/K^+-ATPase in proteoliposomes

Christina Cade, Charles O. Brostrom and **Margaret A. Brostrom** 1277 Rapid induction of polyadenylate binding protein and stimulation of translational initiation in pituitary tumor cells exposed to phorbol ester

Mark Carroll and **Margaret M. Bird**	1285	Glycoprotein expression in mouse cerebellum: effects of inhibitors of N-linked glycosylation
Mark Carroll and **Margaret M. Bird**	1293	Glycoprotein expression in mouse cerebellum: effects of inhibitors of vesicle function
Ryuichi Konno, Katsuhiko Yamamoto, Akira Niwa and **Yosihiro Yasumura**	1301	Presence of D-amino-acid oxidase protein in mutant mice lacking D-amino-acid oxidase activity
K. D. Kim, P. G. Knight and **D. Savva**	1307	Expression of bovine inhibin β subunit in *Escherichia coli*
Tülin Güray and **Emel Arınç**	1315	Kinetic properties of purified sheep lung microsomal NADH-cytochrome b5 reductase
Shigeo Horie, Yumiko Sone, Tomino Watanabe, Masahiro Kuwada, Haruo Suzuki and **Sachiko Sugano**	1321	Comparison of the multiple molecular forms of bovine adrenocortical $P450_{scc}$ with those of corpus luteum $P450_{scc}$
Book Reviews	1333	
New Patents Section	i	

Vol. 23, No. 12

Review

Philip C. Calder	1335	Glycogen structure and biogenesis

Minireviews

Fumio Watanabe and **Yoshihisa Nakano**	1353	Comparative biochemistry of vitamin B_{12} (cobalamin) metabolism: biochemical diversity in the systems for intracellular cobalamin transfer and synthesis of the coenzymes
A. D. Whetton and **S. J. Vallance**	1361	Regulation of neutrophil and macrophage production by growth factors

General Papers

Madhusudan G. Soni and **Harihara M. Mehendale**	1369	Hepatoprotective agent (+)-cyanidanol increases the synthetic phase of hepatocellular regeneration
Prem P. Batra	1375	Conformational stability of citraconylated ovalbumin
Nushin K. Farzaneh, Thomas L. Walden, Vincent J. Hearing and **Douglas M. Gersten**	1385	Comparison of the metabolic fate and tissue distribution of B700, an albumin-like melanoma-specific antigen with serum albumin in normal and tumor-bearing mice
J. Marcinkiewicz, B. M. Chain, Ewa Olszowska, S. Olszowski and **J. M. Zgliczyński**	1393	Enhancement of immunogenic properties of ovalbumin as a result of its chlorination
Boonsirm Withyachumnarnkul, Russel J. Reiter, Alexander Lerchl, Keico O. Nonaka and **Karl-Arne Stokkan**	1397	Evidence that interferon-γ alters pineal metabolism both indirectly via sympathetic nerves and directly on the pinealocytes
Per Fritzson	1403	Purification and some particular kinetic properties of rat spleen cytosolic deoxynucleotidase
C. Rimington, A. Rønnestad, M. Kongshaug and **J. Moan**	1411	Isohematoporphyrin-dialkylethers—II. Further investigations
Tamiko Oh-hama, Neal J. Stolowich and **A. Ian Scott**	1417	Characterization of the process of 5-aminolevulinic acid formation from glutamate via the C_5 pathway in *Clostridium thermoaceticum*

Contents

Terrence J. Piva, Eric A. Newsholme and **Leon Goldstein**	1421	Inhibition by monochloramine of the transport of glutamine and glucose in HeLa cells and lymphocytes
Jürgen T. Borlakoglu, Klaus D. Haegele, Hans J. Reich, Raymond R. Dils and **John P. G. Wilkins**	1427	*In vitro* metabolism of [^{14}C]4-chlorobiphenyl and [^{14}C]2,2′,5,5′-tetrachlorobiphenyl by hepatic microsomes from rats and pigeons. Evidence against an obligatory arene oxide in aromatic hydroxylation reactions
V. Chagoya de Sánchez, R. Hernández-Muñoz, L. Sánchez, S. Vidrio, L. Yáñez and **J. Suárez**	1439	Twenty-four-hour changes of S-adenosylmethionine, S-adenosylhomocysteine adenosine and their metabolizing enzymes in rat liver; possible physiological significance in phospholipid methylation
Maria Luisa Bonet, Francisco Ignacio LLorca and **Eduardo Cadenas**	1445	Purification and some properties of an atypical alkaline *p*-nitrophenylphosphate phosphatase activity from *Halobacterium halobium*
Kanagasabai Panchalingam, Shenin Sachedina, Jay W. Pettegrew and **Thomas Glonek**	1453	Al–ATP as an intracellular carrier of Al(III) ion
Willy J. Malaisse and **Hakan Bodur**	1471	Hexose metabolism in pancreatic islets: enzyme-to-enzyme tunnelling of hexose 6-phosphates
S. Persengiev, Ch. Marinova and **V. Patchev**	1483	Steroid hormone receptors in the thymus: a site of immunomodulatory action of melatonin
S. Persengiev, V. Patchev and **B. Velev**	1487	Melatonin effects on thymus steroid receptors in the course of primary antibody responses: significance of circulating glucocorticoid levels
José A. Cebrian Pérez, Maria Teresa Muiño Blanco and **Göte Johansson**	1491	Heterogeneity of synaptosomal membrane preparations from different regions of calf brain studied by partitioning and counter-current distribution
Book Reviews	1497	
New Patents Section	i	